

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Previously Presented): A semiconductor device comprising:
a semiconductor substrate, and
a circuit element using an insulating film formed on said semiconductor substrate,
said insulating film containing a silicon compound containing oxygen, and a metal
compound containing a metal other than silicon and oxygen, said insulating film further
comprising nano-crystals, a particle diameter of said nano-crystals being within a range of
between 1 nm and 10 nm.

Claim 2 (Canceled).

Claim 3 (Previously Presented): The semiconductor device according to claim 1,
wherein said nano-crystals are made of said metal compound.

Claim 4 (Currently Amended): The semiconductor device according to claim [[2]] 1,
wherein said nano-crystals are made of an oxide, a nitride or an oxynitride of a metal other
than silicon.

Claim 5 (Cancelled).

Claim 6 (Original): The semiconductor device according to claim 1, wherein said
insulating film has a thickness falling within a range of between 3 nm and 20 nm.

Claim 7 (Previously Presented): The semiconductor device according to claim 1, further comprising a silicon oxynitride film between said semiconductor substrate and said insulating film

Claim 8 (Original): The semiconductor device according to claim 1, wherein said metals other than silicon is at least one metal selected from the group consisting of Ti, Ta, Y, Al, Zr, La, Hf, Nb and elements of lanthanum series.

Claim 9 (Previously Presented): The semiconductor device according to claim 1, wherein said circuit element is a MOSFET, and said insulating film is a gate insulating film of said MOSFET.

Claims 10-11 (Canceled).

Claim 12 (Previously Presented): The semiconductor device according to claim 1, wherein a part of a periphery of at least one of said nano-crystals being positioned within a distance of 0.7 nm from the interface of said insulating film.

Claim 13 (Original): The semiconductor device according to claim 1, wherein said insulating film is a mixed film containing said silicon compound and said metal compound.

Claim 14 (Withdrawn): A method of manufacturing a semiconductor device according to claim 1, comprising:

forming an insulating film containing a silicon compound containing at least one element selected from the group consisting of an oxygen and a nitrogen, and a metal

compound containing a metal other than silicon and at least one element selected from the group consisting of an oxygen and a nitrogen, on a semiconductor substrate under temperatures at which crystallization does not take place; and

applying a heat treatment to precipitate a nano-crystalline metal oxide within said mixed film.

Claim 15 (Withdrawn): A method of manufacturing a semiconductor device, comprising:

forming insulating film being a mixed film including a silicon compound containing at least one element selected from the group consisting of an oxygen and a nitrogen, and a metal compound containing a metal other than silicon and at least one element selected from the group consisting of an oxygen and a nitrogen on a semiconductor substrate under temperatures at which crystallization does not take place; and

applying a heat treatment to precipitate a nano-crystalline metal oxide within said mixed film.

Claim 16 (Previously Presented): A semiconductor device comprising:

a semiconductor substrate;

source and drain regions formed apart from each other in said semiconductor substrate;

a gate insulating film formed between said source and drain regions, said gate insulating film containing a silicon compound containing oxygen, and a metal compound containing a metal other than silicon and oxygen, said insulating film further comprising nano-crystals, a particle diameter of said nano-crystals being within a range of between 1 nm and 10 nm, and

a gate electrode formed on said gate insulating film.

Claim 17 (Previously Presented): The semiconductor device according to claim 16, wherein said silicon compound is a compound selected from the group consisting of a silicon oxide, a silicon nitride, and a silicon oxynitride.

Claim 18 (Previously Presented): The semiconductor device according to claim 16, wherein said nano-crystals are made of said metal compound.

Claim 19 (Canceled).

Claim 20 (Previously Presented): The semiconductor device according to claim 16, wherein said insulating film has a thickness within a range of between 3 nm and 20 nm.

Claim 21 (Previously Presented): The semiconductor device according to claim 16, further comprising a silicon oxynitride film between said semiconductor substrate and said insulating film.

Claim 22 (Previously Presented): The semiconductor device according to claim 16, wherein said metal other than silicon is at least one metal selected from the group consisting of Ti, Ta, Y, Al, Zr, La, Hf, Nb and elements of lanthanum series.

Claim 23 (Previously Presented): The semiconductor device according to claim 16, wherein a part of a periphery of at least one of said nano-crystals being positioned within a distance of 0.7 nm from the interface of said insulating film.

Claim 24 (Previously Presented): The semiconductor device according to claim 16, wherein said insulating film is a mixed film containing said silicon compound and said metal compound.

Claim 25 (Previously Presented): The semiconductor device according to claim 16, wherein said gate electrode comprises polycrystalline silicon layer, a SiGe layer, or a metal layer.

Claim 26 (Previously Presented): The semiconductor device according to claim 16, further comprising silicide layers on said source drain regions.

Claim 27 (New): The semiconductor device according to claim 1, wherein a silicon content in said insulating film is within a range of between 15% and 80%.

Claim 28 (New): The semiconductor device according to claim 27, wherein said metal in said insulating film is Ti.